Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

A280.39
M34Am
Cop. 3

MARKETING COSTS AND MARGINS FOR PROCESSED CHEESE

U.S. DEPT. OF AGRICULTURE
LIBRARY
APR 24 1962
CURRENT SERIAL RECORDS

Reprinted From
The Marketing and Transportation Situation
April 1958

U. S. DEPARTMENT OF AGRICULTURE
Agricultural Marketing Service
Marketing Research Division

AMS-238

Agriculture - Washington

MARKETING COSTS AND MARGINS FOR PROCESSED CHEESE 1/

This report shows how the farm-retail price spread was distributed among the various processing and distributing agencies that participated in marketing three lots of processed cheese produced in Wisconsin in 1956. Since each variety, age, weight, and style of cheese is unique and since marketing channels vary, marketing margins for individual lots differ substantially. 2/ Those shown in this report are not necessarily typical in all respects.

Much of the cheese we consume in the United States is processed type. It is made by grinding and mixing several lots of natural cheese at high temperatures. To the mixture are added an emulsifying agent, salt, and sometimes cream. The characteristics of the finished product depend largely on the qualities of the natural cheeses selected for the mixture. A typical processor buys natural cheeses from an assembler who has bought his supply from natural cheese factories. The processor sells to wholesalers, chain-store companies, or other large-scale buyers.

Costs and Margins in Manufacturing Cheddar Cheese

This study starts with the delivery of milk at the Cheddar cheese factory and follows three vat lots of natural Cheddar cheese through steps used in the manufacture of processed cheese. The processed cheese is further followed through one or more of its regular marketing channels to the customer.

The vat lots of natural Cheddar cheese were manufactured on the following dates: Lot 1 - December 22, 1956; Lot 2 - May 30, 1956; Lot 3 - October 13, 1956. The price to farmers for milk used in the manufacture of these lots was the price announced by the plant for that particular period. This price was for milk delivered to the plant. A hauling charge was deducted from the announced price when milk was picked up at the farm and delivered to the plant by a contract hauler or by the plant's truck (table 6). Such charges often were less than the actual cost of hauling. The difference, usually referred to as a hauling subsidy, was paid by the plant to the hauler or was borne by the plant if its own facilities were used. In most cheese factories, the hauling subsidy is included as one cost of manufacture, and accounting procedures usually do not distinguish between milk-hauling and product-hauling costs.

1/ Prepared by J. Kenneth Little, Research Assistant, and Harlow W. Halvorson, Associate Professor, Department of Agricultural Economics, University of Wisconsin. (An Agr. Market. Serv. contract study.)

2/ The marketing margin is the difference between the retail price paid by the consumer and the payment to the farmer for equivalent farm products. In this study it is a measure of the charges for assembling, processing, transporting, and distributing the farm product.

Table 6.- Average cost of the quantity of milk equivalent to 1 pound of processed cheese, cost of hauling milk from farms to natural cheese factory, and net returns to farmers, 3 lots, Wisconsin, 1956

Item	Lot 1	Lot 2	Lot 3
	Cents	Cents	Cents
Cost of milk to plant 1/	27.9	28.7	28.1
Hauling charge paid by farmers	1.3	.9	1.3
Net returns to farmers	26.6	27.8	26.8

1/ Based on average plant pay price for average test milk delivered to the plant.

Hauling charges vary with distance of the milk supplier from the cheese plant and with the relative concentration of dairy farms. Some plants vary the charge as a competitive device in order to attract and hold suppliers.

Each of the three factories accounted for its manufacturing costs in a somewhat different manner. The size of the factories had little, if any, effect on production costs: Lots 1 and 3 were produced in three-vat factories while Lot 2 was manufactured in a six-vat factory. The costs of manufacture as reported by the factories were remarkably similar (table 7).

Table 7.- Price received for the quantity of Cheddar cheese equivalent to 1 pound of processed cheese, cost of milk, manufacturing costs, and net margin, 3 lots, Wisconsin, 1956

Item	Lot 1	Lot 2	Lot 3
	Cents	Cents	Cents
Selling price:			
Basic price	29.1	31.7	31.2
Moisture premium	1.4	.8	---
Box allowance	---	.1	.1
Hauling allowance	.3	.2	.1
Total	30.8	32.8	31.4
Cost of milk:			
Cost, f.o.b. plant	30.1	30.4	30.3
Less value of cream recovered	2.2	1.7	2.2
Net cost	27.9	28.7	28.1
Plus manufacturing costs	4.1	4.2	4.1
Total costs	32.0	32.9	32.2
Net margin: Selling price less total costs	-1.2	-.1	-.8

A definite cost can be set for finished natural cheese but its future value will be determined by the grade into which it falls. Premiums are paid for a low moisture content.

The negative net margins for 2 of the 3 lots resulted from conditions that were not typical: For Lot 1 the Junior Grade 3/ quality resulted in a relatively low selling price, for Lot 2 the cream recovery was low. These conditions can be corrected by management without appreciable increases in cost.

Assembler's Costs and Margins

The assemblers operated on a relatively small margin considering the number of services they performed (table 8). These services included receiving the Cheddar cheese, testing for moisture and fat, grading, weighing, paraffining, and placing the cheese in temporary storage.

Table 8.- Price received by assembler from processor for the quantity of Cheddar cheese equivalent to 1 pound of processed cheese, assembly costs, and assembler's net margin, 3 lots, Wisconsin, 1956

Item	Lot 1	Lot 2	Lot 3
	Cents	Cents	Cents
Price received from processor	31.4	33.4	32.0
Assembler's costs:			
Price of cheese bought from manufacturer	30.8	32.8	31.5
Less "paraffin gain"	.2	.2	.3
Net cost of cheese	30.6	32.6	31.2
Plus assembly and other costs	.4	.5	.7
Total costs	31.0	33.1	31.9
Net margin: Price received from processor less costs	.4	.3	.1

The margin between the price paid the manufacturer and the price received from the processor does not always cover the cost of assembling. This margin is supplemented by what is known as the assembler's "paraffin gain," which results from the assembler's practice of buying on unparaffined weights and selling on paraffined weights. This paraffin gain, usually 1/2 pound per 72 to 74 pound cheddar, varies in monetary amounts according to the market value of each cheese.

Lots 2 and 3 were held in storage by the assembler for periods of 80 and 26 days, respectively. Each was then moved about 120 miles to a processor. Lot 1 went directly to a nearby processor who held the cheese 45 days before processing.

3/ State Brand and Junior Grade cheeses are roughly comparable to U. S. Grades A and B, respectively.

Costs and Margins for Processed Cheese Operations

In the processing operation, the cheese is cleaned, stripped of all paraffin and mold, cut into 15- to 20-pound sizes, and fed into a grinder which reduces the cheese into small granules approximately 1/8 inch in size. The granulated cheese is fed into a cooker holding 450 to 500 pounds of cheese. Proper amounts of coloring, salt, emulsifier, and water are added, and the batch is quickly heated to 160 degrees by means of steam injection. The entire process in the cooker takes only 5 minutes. From the cooker the melted cheese is emptied into a hopper which feeds the packaging machine.

In each case, Cheddars from the original sample lots were combined with other cheese in a "master blend." Careful consideration was given to the characteristics of the cheese used so that the "master blend" would have the desired flavor, age, acidity, moisture, and consistency when combined and cooked.

Since each of the three vat lots of Cheddars cheese was combined with other cheeses in a master blend and processed as explained above, the average price received by the assembler (table 8) differed from the weighted average cost of the raw cheese used in each batch of processed cheese (table 9).

Table 9.- Processor's selling price per pound, cost of an equivalent quantity of raw cheese, processing costs, and net margin, 3 lots of processed cheese, Wisconsin, 1956

Item	Lot 1	Lot 2	Lot 3
	Cents	Cents	Cents
Selling price	47.3	37.8	37.0
Costs:			
Raw cheese 1/	29.9	32.1	30.4
Processing	10.8	5.5	2.9
Total	40.7	37.6	33.3
Net margin: Selling price less costs	6.6	.2	3.7

1/ Average cost of quantity of natural cheese equivalent to 1 pound of processed cheese, based on average price for all cheeses used in sample lots. The equivalent quantity allows for paraffin and trim losses and an overrun of approximately 7 percent resulting from the addition of steam and water to the basic ingredients.

Lot 1 was used in the production of a process loaf which, after a cooling period, was sliced and packaged in 1/2-pound packages. The costs of this dual operation were understandably high, 10.8 cents per pound.

Lot 2 was used in the production of a 2-pound loaf, a large volume item. The average cost of this operation during the 4-month period of study was 5.5 cents per pound.

Lot 3 was used in the production of 5-pound loaves, another item produced in volume by the processor. The reported cost figures of 2.9 cents per pound appear to be very close to those of other firms producing the same product.

Costs and Margins of Distributors

Lot 1 was sold directly to a 19-store chain located in a large eastern city. The chain paid the transportation charges, marked up the purchased price of the cheese 31 percent, and sold it for 62 cents per pound in each of its stores (table 11). This gave the chain a margin of 14.7 cents per pound to meet costs of transportation, warehousing, delivery to stores, stocking shelves, checking out, and other retail operations.

Processors of Lots 2 and 3 performed the wholesaling functions through their own organizations. Lot 2 was transferred (intraplant) at cost to the processor's local sales organization which sold it to independent supermarkets and to a large Midwest chain (table 10).

Lot 3 was sold to the processor's eastern sales branch at 37 cents per pound, delivered price. This sales branch utilized a public warehouse for storage; the overall operating costs were 1.75 cents per pound. This branch sold to wholesalers and jobbers.

Retailers' Costs and Margins

The 1/2-pound packages of sliced cheese (Lot 1), a popular item, were sold at a uniform price of 62.0 cents per pound in the chainstore. The 2-pound loaves (Lot 2) were sold at prices ranging from 47.5 cents to 49.5 cents per pound in the supermarkets and 52.5 cents per pound in the large chainstore (table 11). The supermarkets received the cheese at the store for 41.0 cents. The chain received it at its warehouse for 40.5 cents per pound.

The 5-pound loaf (Lot 3) was distributed to institutions and grocery and food specialty stores. In grocery stores it was generally sold in amounts cut to order from the loaf. The prices charged ran from 49 to 75 cents per pound cut from the loaf. The services performed by the retailer included ordering as needed, allowing space in the meat display cabinet, and cutting and wrapping the order.

Table 10.- Wholesaler's selling price per pound, costs, and net margin, 3 lots of Wisconsin processed cheese, 1956

Item	Lot 1 1/	Lot 2	Lot 3
	Cents	Cents	Cents
Selling price	---	40.8	40.5
Costs:			
Price paid for cheese	---	37.8	37.0
Transportation	---	---	2/1.2
Other	---	2.2	1.7
Total	---	40.0	39.9
Net margin	---	8	6

1/ Lot 1 did not move through a wholesaler.
2/ Estimated.

Table 11.- Retail price per pound, retailer's purchase price, and gross margin, 3 lots of Wisconsin processed cheese, 1956

Item	Lot 1	Lot 2	Lot 3
	Cents	Cents	Cents
Average retail price	62.0	49.9	62.0
Retailer's purchase price	47.3	40.8	40.5
Gross margin	14.7	9.1	21.5

Table 12.- Summary of gross and net marketing margins (before income taxes), per pound, 3 lots of Wisconsin processed cheese, 1956

Item	Lot 1	Lot 2	Lot 3
	Cents	Cents	Cents
Retail price	62.0	49.9	62.0
Less purchase price	47.3	40.8	40.5
Gross retail margin	14.7	9.1	21.5
Less costs 1/	13.3	8.0	19.3
Net retail margin	1.4	1.1	2.2
Wholesale price	---	40.8	40.5
Less purchase price	---	37.8	37.0
Gross margin	---	3.0	3.5
Less transportation and other costs	---	2.2	2.9
Net margin	---	.8	.6
Processor's selling price	47.3	37.8	37.0
Less cost of raw cheese 2/	29.9	32.1	30.4
Gross margin	17.4	5.7	6.6
Less processing costs	10.8	5.5	2.9
Net margin	6.6	.2	3.7
Assembler's selling price	31.4	33.4	32.0
Less net cost of cheese	30.6	32.6	31.2
Gross margin	.8	.8	.8
Less assembly and other costs	.4	.5	.7
Net margin	.4	.3	.1
Manufacturer's selling price	30.8	32.8	31.4
Less net cost of milk	27.9	28.7	28.1
Gross margin	2.9	4.1	3.3
Less manufacturing cost	4.1	4.2	4.1
Net margin	-1.2	-.1	-.8
Hauling cost paid by farmer	1.3	.9	1.3
Total gross marketing margin 3/	37.1	23.6	37.0
Total net marketing margin 4/	7.2	2.3	5.8

1/ Estimated.

2/ Differs from the assembler's selling price which is for only one of the natural cheeses which were blended in making each lot of processed cheese.

3/ Total marketing margin is not equal to the difference between the retail price and the net returns to farmers for milk because the average "blend" prices for natural cheese paid by processors differed from prices paid for individual lots of natural cheese covered by this study.

4/ Does not include net margin of haulers paid by farmers.